

Responses to Comments in Letter 151 from Ray Hellwig, Washington State Department of Ecology

Note: The responses listed below are numbered to correspond to the numbers shown in the right-hand margin of the preceding comment letter.

1. The Final EIS has a table of contents including a list of figures, tables, and appendices.
2. The location of the facility is based on size, proximity to available utilities and gas pipeline easement, compliance with City of Sumas zoning and comprehensive plans, access to the site, and availability of the property.

In addition, the Washington Administrative Code states:

“When a proposal is for a private project on a specific site, the lead agency shall be required to evaluate only the no action alternative plus other reasonable alternatives for achieving the proposals objective on the same site.” (WAC 197-11-440(5)d).

“Reasonable alternatives shall include actions that could feasible attain or approximate a proposals objective, but at a lower environmental cost or decreased level of environmental degradation.” (WAC 197-11-440 (5)b)

A number of mitigation measures have been identified through agreements with regulatory agencies. These are described in Section 2.4 of the Final EIS.

The 115 kV power lines that run through Whatcom County are no longer part of the project. Only the 230 kV line to Canada is included in the project.

The applicant’s proposed approach to wastewater generation and discharge has been revised. See General Comment I for a discussion of this significant change in the wastewater recycling and ultimate volume of discharge. Since the City of Sumas no longer has an NPDES permit, it appears that no viable alternatives exist for wastewater discharge.

3. Please see response to General Response C regarding issues related to the adequacy of the EIS evaluation of wetland impacts.
4. The agreement between the Washington Department of Ecology and SE2 (Volume 1, Appendix G, Exhibit 6, page 3) states that “...Ecology originally raised issues with respect to air emissions and water resources. These issues have been resolved to Ecology’s satisfaction and, therefore, no testimony was submitted for the adjudicative hearing.” The agreement stipulates the minimum conditions that SE2 must meet to satisfy Ecology’s concerns with regard to wastewater treatment, hydrostatic test water, stormwater pollution prevention plans, and stormwater drainage design, as well as wetland assessment and mitigation. The Energy Facility Site Evaluation Council could require additional mitigation if the facility is sited.

5. The details of the stormwater retention system will be described in a stormwater management plan as stipulated in agreements made between SE2 and the Washington Department of Ecology and the Washington Department of Fish and Wildlife (Volume 1, Appendix G, Exhibit 6 and Exhibit 3). These state departments will have the opportunity to comment on the adequacy of stormwater systems before they are approved by EFSEC. Please see General Response J for a discussion of the potential for impacts to other property during flood events.
6. Please see General Response A for a cost-benefit analysis.
7. As indicated on page 3.10-11 of the Draft EIS, the assumption of the use of 400 SOVs provided a worst-case scenario for traffic analysis purposes. As indicated, there are a number of factors that would motivate construction workers to share rides to the work site. Thank you for your suggestion in that regard.

The parking lot for the construction workforce would most likely not be paved and, thus, not be impervious.

8. This comment identifies two issues: the susceptibility of the aquifer to contamination, and the impact of increased groundwater withdrawals on nitrate concentrations. With regard to the first issue, the S2GF project is situated in an area where the aquifer is confined by a thick overlying low-permeability soil. There is considerable head on the aquifer because it is recharged from highly permeable soils in the adjoining uplands where the aquifer is unconfined and very susceptible to contamination. The thick confining layer and upward flow gradient provide protection to the aquifer from potential surface releases of contaminants. See also Letter 11, Response to Comment 2 for discussion of engineered safeguards for the diesel tank.

With regard to the potential for nitrate contamination to result from increased withdrawals, it should be pointed out that neither the plant nor groundwater pumping to supply the plant would increase the nitrate contamination in the groundwater. Rather, the increased pumping would increase groundwater gradients locally and could increase the rate at which nitrates could move through the groundwater system toward the wells. Accordingly, it is possible that the nitrate concentrations in the City well water could increase, decrease, or remain essentially the same. At this point, the behavior of nitrate migration in groundwater is not sufficiently well understood to allow for a meaningful assessment from which a reliable prediction could be made as to when and for how long nitrates might be elevated in any given location.

Because of this uncertainty, the City of Sumas and SE2 have agreed that in the event that nitrate concentrations in the City's potable water supply exceed applicable federal, state, or local standards on any date subsequent to the project's start of operation, SE2 would reimburse the City for a nitrate removal system to comply with applicable standards. This agreement would apply regardless of the cause of the nitrate exceedances. The full stipulation agreement is provided in Volume 1, Appendix G, Exhibit 4.

9. Impacts on threatened and endangered species have been evaluated in the EIS and, based on that analysis, significant impacts on listed species can be mitigated through relatively standard conservation measures. The applicant has entered into a binding agreement with the Washington Department of Fish and Wildlife that includes many measures to protect fish, including measures to protect the threatened Puget Sound chinook salmon (see Volume 1, Appendix G). Impacts from agriculture are outside of the scope of the EIS.

The species present and potential impacts are described in Section 3.5 of the EIS. Potential impacts to endangered and threatened fish species are primarily through potential impacts to water quality. Although agriculture in the project area may have had detrimental effects on water quality (reduced shade, increased nutrient concentrations in runoff, alteration of channel morphology and runoff patterns), the proposed project is not expected to cause significant changes in conditions where endangered or threatened species are present.

Although federal agencies are encouraged to promote the recovery of listed species, the proposed action is not a restoration project. Interagency consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service would be conducted prior to construction. The consultation would include a description of the baseline watershed conditions and the degree to which the project and mitigation would facilitate recovery of listed species.

10. SE2 and Ecology have entered into an agreement that describes conditions under which SE2 will be bound to assess and mitigate for future unknown impacts to wetlands and water quality (Volume 1, Appendix G, Exhibit 6). The agreement states that issues with respect to water resources initially raised by Ecology have been resolved to Ecology's satisfaction.
11. Please see Letter 151, Response to Comment 2 (above). General Response C discusses wetland mitigation.
12. Please see General Response C regarding issues related to prior converted croplands.
13. To our knowledge, the applicant, the City of Sumas, and EFSEC have not received any comments from the Lummi Nation regarding this project.
14. Table 1-1 of the EIS now includes the Ecology Water Resources Program. Local shoreline compliance is listed under City of Sumas.
15. Table 1-2 has been revised as suggested.
16. Table 1-2 has been modified to provide additional detail on the contents of the SWPPP.
17. Table 1-2 has been modified to include the mitigation requirement for May Road well field groundwater extraction.
18. Please see General Response J for discussion of impacts and mitigation measures relevant to flood hazards.

19. SE2 has agreed that none of the hydrostatic test water will be discharged directly into surface waters of the state and any such water discharged into a Publicly Owned Treatment Works will meet all applicable pre-treatment standards. Please see Volume 1, Appendix G, Exhibit 6, Settlement Agreement Between Washington Department of Ecology and Sumas Energy 2.
20. As noted in Exhibit 27, Applicant's Prefiled Direct Testimony, Witness # 8, Michael Woltersdorf, some chemicals such as ammonia and lubricating oils would be stored at the facility. According to the Application for Site Certification, all liquid storage areas would be above-ground, in concrete floored areas, with concrete curbing or dikes that will create containment areas equal to the entire volume of chemicals plus a margin of safety. Development of an SPCC Plan for the site is a regulatory requirement and would normally be completed based on the final design of the facility.
21. The section cited in the Draft EIS, 2.2.2.2 Site Security, identified using silt fences and hay bales as measures to help exclude vehicle and pedestrian traffic from wetlands.

Section 3.4.5 of the Final EIS now states that silt fencing will be used to prevent sedimentation and excess nutrients from entering wetlands.
22. Protection of the environment would be addressed, as appropriate, in the site management plans for the facility. The SPCC Plan referred to in Response 20 above, for example, is a requirement of the EPA as set forth in Title 40 of the Code of Federal Regulations.
23. The two 115 kV electrical transmission line options are no longer part of the proposed action. Vegetation management issues related to maintaining clearance to electrical transmission lines would only apply to the 230 kV electrical transmission line to Canada. As stated in Section 3.4 of the Final EIS, no forested wetlands are associated with wetlands along the 230 kV transmission line, and ongoing wetland impacts associated with transmission line maintenance would not be expected along this alignment. Mitigation measures for ongoing ROW maintenance have been identified in the agreements between the Washington Departments of Fish and Wildlife and Ecology and SE2 (see Volume 1, Appendix G).
24. Please see Letter 151, Response to Comment 23 regarding transmission line maintenance (above).
25. Please see Letter 151, Response to Comment 23 regarding transmission line maintenance (above).
26. As described in the Adjudicative Hearing Transcript, pages 1940 and 1941, stormwater collected in the bermed area would be released through an oil-water separator.
27. Section 2.4.1, Generation Plant Site, has been revised to include acreage of wetland mitigation as stated in Exhibit JW-4 referenced in the Supplemental Settlement Agreement Between Washington Department of Fish and Wildlife and Sumas Energy 2 Regarding Wetlands (see Volume 1, Appendix G).

28. Measures to ensure preconstruction wetland hydrology is maintained after construction of the natural gas pipeline are included in Section 3.4.5 of the Final EIS. These measures are consistent with those described in the Supplemental Agreement Between Washington Department of Fish and Wildlife and Sumas Energy 2 (see Volume 1, Appendix G).
29. The 115 kV power lines that run through Whatcom County are no longer part of the project. Only the 230 kV line to Canada is included in the project. Therefore, potential impacts of the 115 kV lines related to leachate from treated wood poles would not occur.
30. Please see General Response I for a discussion of a significantly revised approach to generating and disposing of wastewater discharge from S2GF.
31. Please see General Response I, which discusses the revised approach to include recycling cooling tower blowdown water before discharging it to the Sumas sewer system for transport to Abbotsford for treatment.
32. The detailed air quality impact analysis indicates that the proposed project would meet all applicable requirements of the Clean Air Act. Please see Letter 3, Response to Comment 2.
33. The air quality analysis evaluated impacts in both Class I and Class II areas around the facility. Please see the Prevention of Significant Deterioration Analysis in the Draft EIS (page 3.1-14ff).
34. The “Assessment of Air Quality Related Values for Class I Areas” in the Draft EIS included an analysis of potential impacts on sensitive plants, soils, and receiving water bodies. The impacts of emissions from the proposed facility on soils and vegetation in Class I areas were evaluated by comparing estimated concentrations and deposition fluxes with criteria specified by the USFS. As shown in Table 3.1-15 of the Draft EIS, the 24-hour maximum and annual estimates for NO_x and SO₂ are less than the USFS criteria established to protect vegetation in Pacific Northwest Class I areas.
35. The 115 kV transmission lines have been dropped from the project. As a result, Bertrand Creek, Dakota Creek, Double Ditch, and the Nooksack River would be unaffected by the project. Also see Letter 151, Response to Comment 10 (above).
36. Section 3.2.2.2 of the Final EIS provides a more thorough description of seasonal variations in the general hydrologic conditions onsite and how they influence infiltration and baseflow. However, this discussion is necessarily general in nature because site-specific information is lacking on the distribution of subsurface soils and the seasonal fluctuation of groundwater in the aquifer and the perched zone.
37. A brief description of the tile drains is provided in Section 3.2 of the Final EIS. How the removal of the tiles would affect the site hydrology is discussed in General Response G.
38. Please see General Response D for a discussion of impacts on groundwater quantity and availability to nearby wells, and General Response E for a discussion of the potential impact of increased pumping on nitrate levels in the City wells.

39. See General Response J for a discussion of mitigation measures for impacts to nearby properties that would likely result during flooding as a consequence of placing the fill pad in the floodway.
40. See Letter 151, Response to Comment 10 (above).
41. If nitrate concentrations in the City's potable water supply wells increase to above the drinking water standard, the applicant would pay to have a treatment system installed to remove the nitrate.
42. See Letter 151, Response to Comment 10 (above). Stormwater drainage design stipulations in the agreement address flow issues (see Volume 1, Appendix G).
43. Please see General Response G for discussion of impacts related to reduction of baseflow.
44. See Letter 151 Response to Comment 10 (above). Stormwater drainage design stipulations in the settlement agreement and in a similar agreement with the Washington Department of Fish and Wildlife address stormwater quality (see Volume 1, Appendix G).
45. To avoid impacts to Johnson, Bone, and Sumas Creeks, SE2 proposes to utilize 200-foot setbacks as stated in the Application for Site Certification. The setback is intended to provide twice the buffer distance recommended in the Whatcom County Sensitive Areas Ordinance. A construction plan detailing wetland, riparian, and aquatic habitat protection standards would be prepared as stated in the Settlement Agreement Between Washington Department of Fish and Wildlife and Sumas Energy 2 (see Volume 1, Appendix G).

If this project is approved, any shoreline permits that may be required from the City of Sumas or Whatcom County, and their conditions demonstrating compliance with local shoreline programs, would be issued under the authority of EFSEC as part of the Site Certification Agreement. The City of Sumas has issued a Certificate of Land Use Consistency dated March 2, 1999, determining the proposed action is consistent with the City's Shoreline Management Program (see Volume 1, Appendix I).

46. SE2 has agreed that none of the hydrostatic test water will be discharged directly into surface waters of the state, and any such water discharged into a Publicly Owned Treatment Work will meet all applicable pretreatment standards. Please see Appendix G, Exhibit 6, Settlement Agreement Between Washington Department of Ecology and Sumas Energy 2.
47. SE2 has agreed to prepare a stormwater drainage design plan for submittal to EFSEC for approval, which will be submitted at the same time to Ecology for review and comment. Please see Appendix G, Exhibit 6, Settlement Agreement Between Washington Department of Ecology and Sumas Energy 2 for details of this agreement.
48. See Letter 151, Response to comment 10 (above). Stormwater drainage design stipulations in the agreement address water quality. SE2 would not be allowed to

discharge water that would result in excursions beyond water quality standards for Class A waters (WAC 173-200A).

49. See Letter 151, Response to comment 10 (above) and comment 50 (below).
50. Stipulations for stormwater pollution prevention plans are included in the agreements with Ecology and WDFW (Volume 1, Appendix G). Ecology and WDFW will have the opportunity to review and comment on the SWPPP to ensure that stormwater controls would be adequate for controlling temperature and fecal coliform and other substances in Johnson Creek.
51. The wording in the Final EIS has been revised for clarity.
52. This correction has been made.
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56. The Final EIS has been revised to reflect this comment.
57. According to the City's Water System Comprehensive Plan, the Department of Ecology asserted in the report of examination for GI-25171C that this surface water right was effectively relinquished by the City due to lack of use. The City continues to maintain that the surface water right is available as an emergency water supply.
58. Although the City has not specified the makeup of the unbilled water, it is likely to include water that is lost from the water delivery system by leakage, used for hydrant flushing and maintenance, or used in fire suppression.
59. As described in the EIS, it is anticipated that well and pump improvements can increase the yield to meet the demand. According to the Water Supply Comprehensive Plan, retrofits to the existing wells will be sufficient for several years, after which a new high-capacity well will be required. As described on page 3.2-19 of the DEIS, the City also has existing storage capacity. Also, the applicant is proposing to construct a storage tank with a 500,000-gallon capacity for S2GF use during peak demand.
60. Cooling water would be supplied by the City from both of their well fields; the individual wells have not been specified and could change over time. An intertie would need to be constructed between the potable and industrial water main systems. Control valves would be installed to balance system flows and pressures between these two systems. Sumas would be responsible for delivering water to the project site, and the water supply line is not considered as part of this project.
61. See Letter 151, Response to Comment 50 (above).

62. This section has been changed in light of the agreement with Ecology (page 3-4) that “...(no) hydrostatic test water will be discharged into surface waters of the state and that any such water discharged into a Publicly Owned Treatment Work will meet all applicable pre-treatment standards.” (Volume 1, Appendix G).
63. See Letter 151, Response to Comment 10 (above). Ecology would have the opportunity to recommend an oil/water separator or other BMPs be included in the design to prevent hazardous materials from entering the pond. Whatever details of stormwater design are used would have to be adequate for the protection of surface waters.
64. The text of Section 3.2.3.2 has been modified to include conditions of sludge disposal.
65. See Letter 151, Response to Comment 10 (above). Stormwater impacts related to quantity of discharge are covered in the floodplains section, while stormwater quality is covered in the surface water section.
66. It is proposed that the stormwater design will use the current Ecology stormwater manual. At this time that is the 1992 manual. If the revisions to this manual are approved before the stormwater plan is finalized, the revised plan will be used. Ecology and SE2 have entered into an agreement that specifies that Ecology and WDFW will have the opportunity to review and comment on the long-term stormwater management plan when it is submitted to EFSEC for approval (Volume 1, Appendix G).
67. Design information is needed from the applicant to address this comment.
68. Design information is needed from the applicant to address this comment.
69. A mitigation measure has been added to specify that wastewater will not be discharged to the sanitary sewer during periods of flooding when the wastewater receiving system is inoperable.
70. See Letter 151, Response to Comment 19 (above).
71. Information with which to address this issue would need to be obtained from the applicant because it is not available in the Application for Site Certification.
72. The Final EIS has been revised to provide this qualification.
73. Section 3.4, Wetlands and Vegetation, has been revised to include wetland impact acreage and mitigation strategies as presented in the agreements between SE2, Ecology, and the Washington Department of Fish and Wildlife. For further discussion, please see General Response C.

74. Please see Section 3.2.2.2 of the EIS which discusses the hydrogeologic setting, including information on geologic units underlying the site; groundwater recharge, discharge, and flow; and site hydrogeology.

The site's potential to provide baseflow to Johnson Creek is dependent upon numerous factors including the presence of any permeable or impermeable soil layers underlying the site; the existing artificial drainage tile system; the relationship between saturated surface soils and underlying groundwater levels; groundwater topography which determines the horizontal movement of groundwater from the site toward Johnson Creek; and seasonal groundwater levels.

Based on information presented in the EIS, the extent the site provides baseflow to Johnson Creek is likely limited to a minor contribution during the wet season. To the extent that there are some permeable subsurface layers that are not intercepted by drain tiles, and those permeable layers are connected to Johnson Creek (approximately 0.5 mile from the site along the direction of groundwater flow), the creek may receive some baseflow from precipitation falling on the plant site. However, as the EIS reports, upward leakage from the underlying Sumas aquifer is also occurring at the same time and infiltrating any of these permeable layers that may exist. Therefore, during the wet season Johnson Creek receives water from many other overland flow sources and rising groundwater levels, and any baseflow that may be contributed from the plant site is not likely a large contributor to the overall flow in Johnson Creek. During summer when groundwater levels are 5 to 10 feet below ground surface (see Figures 3.2-4 b and c in the EIS), it is unlikely that baseflow from the plant site contributes significantly to Johnson Creek. As reported in Exhibit JW-4, the wetland ditch running across the plant site contains some surface water during the summer, but it does not apparently flow unless sufficient prolonged rainfall has occurred to carry water from the site to Johnson Creek.

The EIS also describes that the Sumas aquifer in the site vicinity is recharged primarily from precipitation in the uplands to the west and northwest of Sumas, where the aquifer is unconfined. Since the site is underlain by low-permeability soils, and drainage tiles are present at depths of 20 to 36 inches, much of the water that is perched on retarding soil layers is carried to nearby drainage ditches and off the site.

Please also see Letter 151, Response Comments 36 and 37 (above) regarding the site's capability to provide baseflow to Johnson Creek. Please see General Response C regarding the prior converted cropland designation.

75. The wetland mitigation area west of the plant site has been redesigned to include a two-cell stormwater treatment system. In the Settlement Agreement Between Washington Department of Ecology and Sumas Energy 2 (see Appendix G), SE2 agrees to prepare a stormwater drainage design plan for Ecology's review and comment. This agreement identifies design conditions to allow an adequate flow of water into the created and enhanced wetland areas. The mitigation plan prepared for the site (Exhibit JW-4 in Appendix G) also identifies the flood and stormwater retention rates of wetlands on the proposed plant site as low to medium due to the small storage capacity, the low position in the watershed, and size. The Final EIS clarifies the flood and stormwater functions of

the site and how the stormwater treatment ponds would be designed to provide sufficient flood storage as stated in the mitigation plan (Exhibit JW-4, Appendix G).

76. As stated in the Settlement Agreement Between Washington Department of Fish and Wildlife and Sumas Energy 2, a ROW plan would be prepared that identifies construction procedures to avoid and minimize wetland and riparian impacts and restoration and maintenance practices. The plan would be reviewed by WDFW. Please also see Letter 151, Response to Comment 26 above.
77. Please see General Response C.
78. Please see General Response C.
79. As stated in the Settlement Agreement Between Washington Department of Fish and Wildlife and Sumas Energy 2, a Wetland Assessment and Mitigation Plan would be prepared by SE2. The plan would include performance standards, monitoring methods and schedules, and a contingency plan.
80. The wetland mitigation plan presented in Exhibit JW-4 as presented in the Supplemental Settlement Agreement Between Washington Department of Fish and Wildlife and Sumas Energy 2 includes 0.81 acre of buffer area around the mitigation wetlands.
81. Please see Letter 151, Response to Comment 76 (above).
82. Although the presence of bull trout in project area streams is a possibility, habitat is far from ideal for this species. Bull trout presence in these streams is probably infrequent at best. Furthermore, surveys cannot determine that bull trout do not ever use the creeks, only if they are present. A conservative approach would be assume that they could be present either now or at some time in the future and to manage flows to ensure that flow in Johnson Creek is not reduced by operation of the May Road well field.
83. Methods for avoidance of directional drilling related impacts will be included in the SWPPP.
84. The acronym SCCLP (which stands for Sumas Cogeneration Company LP) was defined on page 5-5 of the Draft EIS.
85. Thank you for your comments.